

MISSOURI

CONSERVATIONIST

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†DAVID BESENGER

Vantage Point

Holiday Gifts

People are buying everything from computer games to tennis shoes to give as presents this holiday season, but I believe the best gift anyone can offer a family member, neighbor or friend won't fit in a box. Looking back, I remember few Christmas gifts that I've given or received, but I clearly remember outdoor adventures I've enjoyed during the holiday seasons.

I grew up on a small farm in the Ozarks. One night, when I was about 10 years old, our neighbor knocked on the door and asked my Dad's permission to coon hunt on the farm. The best thing was that he invited my big brother and me to go with him. Mom and Dad would not have let us go on a school night but, because we were on Christmas vacation, they agreed. I'll never forget the great time we had hiking with flashlights through the fields and woods along Carter Creek.

One of our family holiday traditions is winter trout fishing with flies we've tied ourselves. Years ago, when my son Jay was about 12, his Grandpa Heavin taught him how to tie fishing flies. Every Christmas since, Jay's Christmas packages have contained feathers, yarn, hooks, thread or a new vise. He and his grandpa would then tie flies on Christmas Day. Grandpa Heavin is gone now, but my sons and I cherish many outdoor experiences that he shared with us.

Just last year, my other son, Jeff, and I canoed the Eleven Point River two days after Christmas. It was a marvelous and beautiful experience. A mantle of snow covered the river valley. We spotted seven eagles perched in trees above us and saw three deer come down to the stream for a drink. Some nice trout also approved of our flies. It was one of the best floating trips ever, and it added to our stock of Christmas memories.

How can you make a special outdoor memory? Take time to share your appreciation for nature with someone else, preferably a child. Maybe you could help someone build or put up a bird or squirrel feeder in their yard. Take a winter hike and look for wildlife tracks or go outside after dark and listen for the lonesome calls of owls. A good way to spark children's interest in owl-ing adventures is to have them read—or read to them—Jane Yolen's book, *Owl Moon*.

A rabbit, quail or waterfowl hunting trip with you could be someone's most treasured memory of this holiday season. Throughout the year, fishing is always a great way to connect with the outdoors and with one another! Cierra and Chris Morrow can attest to that. Whatever the activ-



Chris Morrow and his daughter, Cierra, enjoy many holiday outdoor adventures together. Chris is the Protection Supervisor of the Conservation Department's St. Louis Region.

ity, the time we share outdoors could be the most treasured gift of all.

The Missouri Department of Conservation can help introduce you to the outdoors, or make it easier for you to get someone else involved in outdoor activities.

Conservation Department nature centers are great places to visit. You can hike a nature trail or learn more about the outdoors through their many exhibits and programs. Almost everyone lives within a short drive to a conservation area. Most of these offer hunting, fishing and wildlife viewing opportunities. You can find information about Conservation Department activities and areas at www.missouriconservation.org, or call a Department office and ask for advice, as well as a free *Outdoor Missouri* map.

We look forward to helping more families enjoy this special time of year.

John D. Hoskins, Director

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TRASH FIGHTER

Great article by Kathy Love about Chad Pregracke and Living Lands and Rivers. I attended the floating classroom and got so much out of it.

Chad was a fireball of enthusiasm and a very interesting individual. His love for the cause is absolutely commendable. Kudos to the "muddy man!"

Holly Schalter, via Internet

RAGING RIVER

I enjoyed reading your series of articles on the Missouri River. The river is a great resource that we all need to know more about.

However, those articles also reminded me of the glaring lack of public river access in the Kansas City area. Western Missouri generally has fewer conservation areas than other parts of the state. I urge you to provide more Missouri River access points in the Kansas City metro area, as well as establish more conservation and fishing areas here.

Eric Rogers, Kansas City



ICY BLUE

David Whitley of Pleasant Hill captured this photo of a bluebird. Whitley said when he glanced out his window to check the temperature on his deck thermometer during a snow storm, he spotted this bluebird with ruffled feathers looking back at him.

Editor's note: It may sometimes seem as though there aren't enough conservation areas, but Kansas City is third among the state's eight regions in the amount of acreage owned or managed by the Conservation Department. It trails only the Ozark and Southeast regions. Accesses to the Missouri River convenient to Kansas City residents can be found at Cooley Lake, Fort Osage and LaBenite conservation areas. River Front Park access is scheduled to open before the end of 2003. A river access at Parkville also is being considered.

MISSING BIRDS

I have lived in southwest Missouri for the past 20 years and grew up in the Montauk area. I recall listening to the lonely yet beautiful song of the whip-poor-will on many hot, steamy summer nights. Now I can't remember the last time I heard one. What's up with that?

Alvey Holland, Long Lane

Editor's note: Whip-poor-will numbers have been trending downward in Missouri for the past 30 years. Urbanization, forest fragmentation and an increase in free-roaming pets are often cited as reasons for the whip-poor-will's decline.

BUCK SNORES

John Wick's "The Real Secret To Deer Hunting" discusses the importance of positive thinking in deer hunting. But an even more important factor involves the application of "The Theory of Paradoxical Intentions," often referred to as "Detachment."

Anyone who has hunted (or fished) will tell you the more eager you are to shoot a deer or catch a fish the less likely it will happen. But once you back off, relax, and begin to enjoy the beauty of the environment surrounding you, presto! The buck appears out of nowhere, and the fish start hitting like mad.

When people fall asleep in their tree stand (never a good idea!) there's more than likely a buck or two right below them, providing, of course, the animals weren't spooked by loud snoring.

Marv Fremmerman, Springfield

MOONS OVER COONS

I'd like to add a few tips to the "Grandpa, Coons and Sharp" article. Coon hunters generally know that coons do not move or roam much on moonlit nights, and that a heavy frost makes it nearly impossible for the dogs to smell the trail.

Also, most coon hunters wouldn't carry a loaded gun in the woods at night. It is much safer to load up at the tree and make the kill, taking care to unload before moving on.

Dale Martin, Tightwad

A STINKER

I read with interest your "No Solution" letter to the editor. My father-in-law, who is now deceased, said that as a kid growing up he earned spending money by selling fur.

He said he caught many a skunk by picking them up by the tail. If his timing was off, he caught a load. He said he was sent home from school several days because of the odor. That was all right with him, though, because he'd just have more time to have fun.

Gerry L. Tavener, Sedalia

PURPLING

Your ombudsman was right on target when he said that people on Missouri waterways for the most part follow the rules. However, an increasing number of "others" trespass, knowingly or unknowingly.

It is difficult to keep fences up along rivers due to seasonal flooding. Many folks I know are ready to break out the purple paint to mark their property, even if it degrades the aesthetics of the waterway.

Please continue the great canoeing articles in your magazine, but be sure to

remind everyone that private land often borders streams and rivers.

Terrance Portman, via Internet

SPRINGFIELD EAGLE DAYS

Page 14 of the November *Outside In* has incorrect dates for the Eagle Days at Springfield Conservation Nature Center. They take place on January 17 & 18.

Nelda Hendrix, Springfield CNC

CLEAN LIVING

I have been a hunter since 1998 and a fisherman my entire life. Fishing and hunting have shaped my life for the better. You hear now of kids doing stupid things. I never got into drugs and that sort of things because I went fishing when I was feeling down. Now I also have hunting.

The letters printed here reflect readers' opinions about the Conservationist and its contents. Space limitations prevent us from printing all letters, but we welcome signed comments from our readers. Letters may be edited for length and clarity.

Ask the Ombudsman



Q: I've heard people say you shouldn't eat rabbit meat, unless the animal was killed after a hard freeze. Rabbit season starts October 1. Is there any truth to this?

A: Rabbits and (other wildlife) are susceptible to parasites, many of which may be more noticeable during warmer weather. One of the most prominent "bugs" rabbits carry are warbles, the larval stage of the botfly. These are often visible in the animal's neck. While these parasites are unsightly, for the most part they don't present a problem for people.

Cold weather may help the hunter minimize exposure to tularemia, a disease people can contract from infected rabbits. This disease is transmitted to rabbits from ticks and fleas, and it's fatal to rabbits. By hunting late in the season the ticks and fleas will be less prevalent, and most of the sick rabbits will be gone. Rabbits that act oddly, or have white or yellow spots on their liver should be discarded. Burying the carcass would be preferable because canine tapeworm larva is fairly common within the body cavities of rabbits. It's always a good idea to cook game properly and use rubber gloves when dressing wildlife.

Ombudsman Ken Drenon will respond to your questions, suggestions or complaints concerning Conservation Department programs. Write him at P.O. Box 180, Jefferson City, MO 65102-0180, call him at 573/522-4115, ext. 3848, or e-mail him at <Ken.drenon@mdc.mo.gov>.

I just want to say thank you for your efforts and to encourage you to keep promoting hunting and fishing.

Matt Magoc, St. Louis

STEEL BULLETS

You show using a hammer and a hatchet to split a deer. Nothing could be more dangerous than to hit steel on steel. Pieces come off like bullets.

Fred Plough, Imperial

Editor's note: Pounding steel upon steel can send steel splinters flying. However, splitting a deer requires only slight tapping on the hatchet with a hammer. Using the hammer results in a neater cut, with less bone splintering, than swinging the hatchet.

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Cliff White

the world's Best Birdwatcher

Pete Winter spent a lifetime looking up for birds and looking out for eastern bluebirds.

It's a wonder that Pete Winter ever became a birdwatcher. As a young man, he spent a great deal of time hunting. Watching birds was extra. Now, Winter is perhaps the premier birdwatcher in the world. He is also an ardent conservationist, and a resident of St. Louis.

According to the American Birding Association, Winter is the world's top-ranked living birdwatcher. He has recorded the sightings of more than 7,700 bird species. Only the late Phoebe B. Snetsinger, also from St. Louis, had officially seen more bird species in the wild.

Winter also conducts a successful eastern bluebird restoration program on land he owns along the Meramec River in Franklin County. Through the Bluebirds Forever project, he has helped fledge nearly 10,000 bluebirds in Missouri. He is best known for his global birding accomplishments, but he is equally proud of his bluebird restoration success locally.

"I never intended to become a ranked birdwatcher," said Winter, 83. "For me, an interest that was born relatively late in my life simply continued to grow over the years until I was hopelessly hooked. While I have traveled the world to see birds and have wonderful memories, helping the Missouri state bird thrive is a lasting legacy."

The Bluebirds Forever project is the brainchild of Winter's brother-in-law, Bud Taylor, who has a home on Winter's 2,600-acre Roaring Spring Ranch near St. Clair. During the winter of 1994-95, after Winter had completed 165 of his more than 170 worldwide birding expeditions, Taylor asked Winter which bird he considered to be his favorite.

Winter's reply was immediate and enthusiastic. "The eastern bluebird! It's gentle, it's beautiful, and it has a wonderful song."

In response, Taylor announced, "Pete, I will try to raise them for you."

The project began in 1995 when Winter and Taylor surveyed the ranch land for suitable bluebird house locations. Bob Winter, Pete's brother, began building the houses.

"We fledged 135 bluebirds that first year," Pete Winter said, "but because we had lost so many eggs to black snakes and raccoons, we considered the season to be a disaster."

Since then, Taylor—called "Buddy Bluebird" by his grandchildren—has solved the predator problem by covering every box post with a sheet of slick, polished aluminum. The 2000 nesting season alone saw 1,200 bluebirds

by William Poe



Jim Rathert

"While I have traveled the world to see birds and have wonderful memories, helping the Missouri state bird thrive is a lasting legacy."



Cliff White

Wearing his signature bluebird hat, Pete Winter peers into one of his 246 nest boxes.

fledged, along with 128 chickadees, 45 tree swallows and even 12 broods of flying squirrels.

More than 1,500 bluebirds were fledged in 2001. After they increased the number of bluebird houses from 170 to 210, the number of fledglings rose to 2,147 in 2002. There are now 246 boxes occupying all available bluebird habitat on the ranch.

Raising bluebirds takes dedication and persistence. Riding his all-terrain vehicle, Taylor inspects each of the bird boxes twice weekly during the nesting season and services them as necessary. He removes old nests, fumigates the boxes to destroy parasites, and rubs a bar of Ivory soap on the inside surface of the box lids to deter wasps. Because bluebirds are prolific nesters, Taylor may apply this regimen several times during the year.

Each pair of bluebirds typically has 14 chicks a year, in cycles of four or five each during three separate nestings. Taylor keeps precise records of each nesting cycle, and each house is numbered so he can track locations and habitat. For every house, he records the date of nest building, the date of egg laying, the number of eggs laid, the period of incubation, and the date and success of fledging.

Named for a large natural spring that empties into the Meramec River, Roaring Spring Ranch encompasses a number of habitats. Most of the upland acreage, crisscrossed by walking and riding trails, is covered with hardwood forest frequented by white-tailed deer and wild turkey. Occasional visitors include pileated woodpeckers, Kentucky warblers, ovenbirds, summer tanagers, white-breasted nuthatches, Cooper's hawks, and red-eyed vireos.

On the lowlands bordering the Meramec, stands of

oak and hickory give way to sycamore and maple. Red-headed woodpeckers, waterthrushes, prothonotary warblers, ospreys, and great blue herons can be seen there.

Although Winter has seen most of the world's 9,800 bird species, one bird that has so far eluded him is another Missouri resident, the northern saw-whet owl. This 7-inch-long denizen of the night has a vast range, but it has so far eluded Winter's sharp eyes.

"It frustrates me to no end," Winter said, laughing.

In contrast to his success with bluebirds, both on his ranch and on other lands in St. Louis County, Winter has found it painful to witness a general decline in the number of other passerine birds on his ranch

property. "Passerine" refers to an order of small- to medium-size, chiefly perching songbirds that have grasping feet with the first toe directed backward.

"During summer weekends, I can hike for miles in the forest and not see or hear a single wood warbler, thrush or vireo that were so plentiful decades ago," Winter said.

Each year, Winter lamented, there is "a greater still-ness" in the remaining forests of the Midwest. Loss of habitat, both in the U.S. and in the birds' wintering ranges in Mexico and Central America, has drastically reduced the populations of many forest and grassland bird species. In fact, the cerulean warbler has declined range-wide at an annual rate of 4.3 percent a year since 1966, according to an analysis of the USGS Breeding Bird Survey.

On the other hand, two purple martin houses on Roaring Spring Ranch attract about 10 pairs of purple martins each year, and an array of hummingbird feeders attract a large number of ruby-throated hummingbirds. Around Taylor's ranch home, the hummingbirds may consume a half-gallon of sugar-nectar each day during late spring, summer and early fall.

The ranch is also home to the gray bat, a federally endangered species. These bats inhabit Roaring Spring Cave, near the mouth of Roaring Spring. The cave is one of the few known breeding sites of the gray bat and is monitored by



Cliff White

Pete's newest hobby is searching for wildflowers.

Missouri conservation agents under an easement provided by the Winter family. Each year, after the bats have hibernated, agents enter the cave and gauge the amount of deposited guano to assess the bat population. Population estimates dropped about 75 percent over the last several decades but rebounded somewhat in a recent survey.

With more than 7,700 bird species and 30 years of serious birdwatching behind him, Winter has taken up a new hobby—identifying in the field all 200 species of wildflowers that the late Edgar Denison illustrated in his classic book, *Missouri Wildflowers*.

Winter met Denison many years ago while they were birding together in St. Louis' Forest Park. Through the years, Winter often called upon Denison to help identify wildflowers.

"I recall seeing along the Meramec a wildflower I had never before encountered," Winter recalled. "While I thought it was a member of the mint family, I called Edgar to describe to him what I had found. He told me I was eyeing the beefsteak plant, *Perilla frutescens*, then a recent immigrant from India.

"Apparently, the wildflower had found the moist river valleys of Missouri to be to its liking," he continued. "When I visited India years later, I looked for the beefsteak and found it growing in the river valleys of that country. I still wonder how the plant had made its way to Missouri."

Advancing age and world terrorism slowed Winter's global birdwatching expeditions, but he and his wife, Gloria, who accompanied him on many of his treks, still occasionally travel to foreign lands. When they do, Winter typically adds another bird or two to his life list.

And what a list it is! Among the species Winter has seen, the standouts include:

- ✓ *A parrot and an antbird that had been so recently discovered that they had not yet been named by ornithologists.*
- ✓ *The spectacularly plumaged birds of paradise.*
- ✓ *A bird that uses volcanic heat to incubate its eggs.*
- ✓ *Another bird that builds a nest of saliva.*
- ✓ *Eagles carrying monkeys as food for young chicks in the nest.*
- ✓ *The resplendent quetzal of Central America and the striking blue hyacinth macaw of Brazil.*
- ✓ *The amazing wandering albatross, which sometimes literally flies around the world.*

A decorated U.S. Navy pilot, Winter flew 77 combat missions in the Pacific during World War II. He returned to Missouri after the war and, with his brother, founded a successful sand and gravel business.

Winter considers himself extremely fortunate to have had the opportunity to travel the world while looking for

birds. His bluebird project is one of many ways he is giving back to the state that has been so good to him. Years ago, the family donated Robert A. Winter Park and George Winter Park, the latter named after Pete Winter's father, to the St. Louis County parks system. The family has also provided scenic easements for hiking and biking trails along the Meramec Greenway.

Winter Brothers Material Company owned the land that the Missouri Department of Conservation purchased along Interstate 44 in St. Louis County. That property is now Forest 44 Conservation Area.

Winter is donating all proceeds from the sale of his new book, *Dawn Chorus: The Adventures of a Birdwatcher*, to the Winter Brothers Charitable Foundation to finance park land benefaction and conservation projects in Missouri. ▲

BUILD YOUR NATURAL LIBRARY!

Learn more about Missouri's fascinating birds and plants and build your own "lifelists" of the species you've seen with the help of Conservation Department publications.

Birds in Missouri is a comprehensive guide to 354 bird species in Missouri, including resident, part-time resident and migrant species. The book provides identifying characteristics and range maps. The softcover edition of *Birds in Missouri* costs \$30 and the hardcover edition costs \$38, plus shipping and handling, and tax, where applicable.



Missouri Wildflowers provides 297 stunning photographs of wildflowers commonly found in the state. The book also provides plant characteristics, habitat preferences and range of each species, making plant identification easier. The softcover book costs \$12, plus shipping and handling, and tax, where applicable.

The books are available at Conservation Nature Centers and most regional offices, or you can order them from the Nature Shop, Department of Conservation, P.O. Box 180, Jefferson City, MO 65102-0180 or by calling, toll-free, 877/521-8632. It's easy to visit the Nature Shop online at www.mdcnatureshop.com.

The 16-page *Bluebirds of Missouri* booklet provides lots of interesting information about bluebird nesting behavior and food and habitat preferences. It also includes plans for building bluebird houses. "*Bluebirds of Missouri*" is available free by writing Publications, P.O. Box 180, JC 65102-0180 or by emailing publications.staff@mdc.mo.gov.



By Tom Hutton & Jim Braithwait

RULES OF ENGAGEMENT

How you conduct yourself in the “critter wars” is key to minimizing wildlife damage.

Most people enjoy having wildlife around and are willing to tolerate some inconvenience, possibly even some property damage, for that privilege.

Occasionally, however, people reach a point when their tolerance is exhausted. They might be frustrated by squirrels in the attic, woodpeckers hammering on siding, moles in the lawn, deer eating shrubbery, coyotes killing livestock, beavers flooding fields, or river otters eating catfish in their ponds.

Even folks with considerable tolerance are sometimes frustrated by the determined persistence of critters. Beavers, for example, will rebuild a dam as many times as you can tear it out. It's easy to become disenchanted with deer that have damaged or destroyed landscaping in which you've invested blood, sweat and money. You might even start to resent those playful otters after they've eaten the catfish you planned to share with family and friends.

Long before you get ready to take action against the critters causing damage, it helps to know some “rules of engagement.”

The first rule is to “do your best to avoid engagement.” Keeping your buildings and fences in good repair, for example, will keep squirrels from nesting in your attic, skunks from crawling under your house and foxes and coyotes from attacking your pigs or poultry.

It's also a good idea to keep garbage containers tightly closed and secure. If necessary, build a wildlife-proof bin holder. If you feed pets or livestock outside, don't leave extra food out that might attract other critters. Feed your pets only as much they can eat at one time, then remove any extra food.

The second rule is “good fences make good critters.”

Where practical, keep wildlife from places you don't want them. Install chimney caps to keep raccoons, squirrels and bats from entering houses. Build strong poultry pens with netting on top to prevent foxes, raccoons, owls and hawks from getting to chickens and ducks. Netting will also deter woodpeckers from hammering on your house, robins from picking your fruit and deer from feasting on your flowers or shrubs.

The third rule is “identify the perpetrator.” Counter-offensives will only be effective when you know exactly which species is causing a problem. For example, determine whether the mounds in your yard are made by moles or pocket gophers. Find out if the noises in the attic are from bats, squirrels or raccoons. Are the burrows under the patio made by skunks or groundhogs? Is it squirrels, skunks, raccoons or armadillos that are digging in your yard? Are your chickens being killed by foxes, bobcats, raccoons, hawks or owls? Is the animal in the pond a beaver, muskrat or river otter?

Each animal leaves telltale signs in the form of feces, tracks, style of digging and the way they kill and feed. Identifying those signs can help you take the most appropriate action.

The fourth rule is “withdraw the welcome mat” by making your property less attractive to problem animals. Trim back tree limbs to make it harder for squirrels to reach the house. Plant tall grasses and/or shrubs along the shore of a lake to discourage geese. If deer are eating up your garden and shrubbery, landscape with plants that deer don't like. If foxes or coyotes are threatening pets, consider fencing the yard. If snakes are giving you the creeps, clear away any debris or firewood near the



Photos by Jim Rathert

Even the most beautiful and endearing animals can sometimes become troublesome. Wildlife biologists recommend a variety of tactics designed to eliminate or control wildlife damage.

house that might provide cover for them and the animals they eat.

The fifth rule is “lure them away.” Planting alfalfa away from the house can help keep deer from munching on our landscaping plants. Planting bluegrass/clover on the far side of the lake, while planting tall grasses on the side near the house, can reduce “goose nuisance” on your lawn or patio. Providing nesting boxes for squirrels and roosting houses for bats will give them a better alternative to nesting in your attic.

Planting bluegrass/clover on the far side of the lake, while planting tall grasses on the side near the house, can reduce “goose nuisance” on your lawn or patio.

The sixth rule is “scare them if you can.” Scarecrows help protect gardens by keeping birds away. Many other scare devices will work to frighten or rattle wildlife. These might include pie pans and flashy ribbons, fireworks, scary-eye balloons, dogs, chemical repellents, laser guns and motion-activated sprinklers. Your “weapon” of choice will depend on the animal involved and the particular situation.

If all else fails, the Wildlife Code of Missouri includes a “trump” rule that allows landowners to protect their property by trapping or shooting some species of wildlife where local ordinances don’t prohibit these methods. On Page 4 of the Wildlife Code under 3 CSR 10-4.130, it states:

“Subject to federal regulations governing the protection of property from migratory birds, any wildlife except deer, turkey, black bears and endangered species which beyond a reasonable doubt is damaging property may be captured or killed by the owner of the property being damaged, or by his/her representative at any time and without permit, but only by shooting or trapping... Wildlife may be so controlled only on the owner’s property to prevent further damage. Wildlife so killed or captured must be reported to an agent of the department within twenty-four hours and disposed of according to his/her instructions. Deer, turkey, black bears and endangered species that are causing damage may be killed only with the permission of an agent of the department and by methods authorized by him/her.”

Many landowners are unaware of this regulation and believe that they have no recourse when the critters seem to be winning the war.



ENGAGING RIVER OTTERS

River otter depredation of fish in ponds is a good example of the kind of damage landowners suffer when they actually could be doing something to protect their property from wildlife.

At one time, river otters were classified as “endangered” in Missouri. That is no longer the case. Missouri’s river otter population has increased beyond expectations since the restoration program began in the 1980s. River otters are now common and are regulated in the same manner as most resident wildlife species.

The Wildlife Code specifies that “otters which are damaging property may be captured or killed by shooting or trapping on the owner’s own property.” The only



Jim Rathert

requirement is that they be reported to a Department agent and disposed of according to their instructions.

Ongoing river otter skirmishes can illustrate how the “rules of engagement” work. It’s an early autumn day. The trees are turning brilliant shades of red, yellow, orange and bright green. The water in the lake is so calm it looks like a thin sheet of glass, and fog is slowly rising off the water as sunlight warms the cool air. Birds are singing and, at the lower end of the lake, a pair of wood ducks takes flight, startled by your presence.

You’re fishing, but the fishing is very, very slow. You’ve only caught a few small fish, and your favorite lures aren’t producing. Something is wrong.

You decide to walk the dam to inspect the drain tube

The Conservation Department responded to problems caused by increasing otter numbers by modifying regulations to encourage a larger harvest of the animals.

and look for deer sign around the shore. You easily identify deer and raccoon tracks in the mud, but something else catches your eye!

You find some droppings that resemble raccoon feces but, instead of corn and weed seeds, they contain orange fragments as well as fish scales. Several droppings are concentrated in one area near a path where animals have been entering and exiting the water. You also find fish heads scattered around the pond and an

occasional fish just partially eaten. What kind of animal would do this? Otters. Yes, river otters are responsible for damage in this situation.

Otters eat an average of 2.5 pounds of meat daily. Fish and crayfish are their favorite food items. They also eat frogs, salamanders, snakes, turtles, and muskrats. Otters eat crayfish more frequently throughout the spring, summer, and fall. However, as water temperatures cool in late fall, crayfish burrow into the mud and are less available, forcing otters to eat more fish. An analysis of 443 otters during the 1997-99 trapping seasons revealed the following occurrences of food in their stomachs:

Food type	Percent
Crayfish	61
Fish	51
Frogs	17
Muskrats	3
Ducks	1
Empty stomachs	4

The proportions are similar wherever otters are found. The river otter's keen senses and predatory skills make catching their food "child's play." When otters enter a pond or lake, they tend to stay only a short time, from a day to a couple of weeks. If they find abundant fish or



Photos by Tom Hutton

Identify perpetrators by tracks, scat or the food litter the animal leaves behind. Fish heads and scale piles (top) are the tell-tale signs of otters. Otter management through trapping makes use of the animal's valuable fur. Electric fencing can help protect some ponds.

crayfish, they remember the location and will eventually come back for more.

Their nomadic behavior increases their odds of survival because it increases their sources of food and decreases your odds of catching them in the act. Knowing this, what can you do if you suspect otters are seriously reducing the number of fish in your pond?

● **Avoid engagement**—This is harder to do as the otter population has increased. Ponds larger than 1 or 2 acres, especially those with underwater brush piles or other good escape cover, suffer less severe damage than smaller impoundments. Small, shallow ponds stocked with “fed” catfish and without any escape cover literally provide “fish in a barrel” for otters.

● **Good fences make good critters**—Well-maintained electric, chain link, small-mesh welded wire, or combination electric and permanent fencing can protect catfish in small, shallow ponds.

● **Identify the perpetrator**—Don’t assume every furry animal in your pond is an otter. Beaver and muskrat also frequent ponds and are not a threat to fish. If your pond or lake is large enough, there is no cause for alarm, even if the furry animal is an otter. In some cases, otters may even help populations of desirable fish by eating some species that tend to overpopulate.

Especially in late winter/early spring or in late summer, decomposition of plant material sometimes depletes the oxygen in pond water and kills fish. The carcasses often drift to shore to be consumed by raccoons and other scavengers. Great blue herons and even other catfish sometimes cause wounds that contribute to fish mortality. Sampling the fish population is a good way to determine whether there is a serious problem and whether otters or something else is the cause.

● **Withdraw the welcome mat**—Otters generally stay for shorter periods if there isn’t a convenient place for them to “hole up.” Removing brush piles, overflow pipes, beaver lodges/dens and even overturned boats and other places where otters may rest would encourage them to leave sooner.

● **Lure them away**—This approach is not practical for otters. Even a more abundant food source nearby will not keep them from exploring other potential food sources.

● **Scare them if you can**—This also has limited application for otters. Shooting “shell crackers” or live ammunition near them may scare them away temporarily, but is not a practical long-term deterrent.

● **Owner May Protect Property**—As mentioned above, landowners have a right to protect their property under the Wildlife Code of Missouri. If the above

Learn more about how to control otter problems with the free publication, “Missouri’s River Otter.” Request a free copy by writing River Otter Publication, P.O. Box 180, Jefferson City, MO 65102-0180, or email <publications.staff@mdc.mo.gov>.



approaches fail or aren’t practical, this “trump” card remains available.

One option is to shoot the otters that are causing the damage. It’s best to use a shotgun rather than a rifle to reduce the possibility of projectiles ricocheting from the water’s surface. Another option is to trap the otters. If feasible, wait until the fall trapping season begins in November. If you obtain a trapping permit, you or a local trapper may sell the pelt and make some use of the animal. Your nearest Conservation Department office can help you obtain a list of available trappers associated with the Missouri Trappers Association.

The Conservation Department has a new book titled: *Missouri’s River Otters: A Guide to Management and Damage Control*. This publication gives detailed information on river otter biology and habits, along with instructions for evaluating and dealing with river otter damage.

The Missouri Department of Conservation’s Wildlife Damage Program and other Department staff are available to landowners experiencing wildlife damage. If a problem should occur and you need help, first contact the conservation agent in your county. If unable to find a solution, the agent will contact a wildlife damage biologist to provide further assistance. Five wildlife damage biologists are located throughout the state. They assist landowners by phone or may visit the site of the damage.

The program provides information and equipment necessary for landowners to solve their immediate problems and help prevent further damage. The Department is also experimenting with floating traps which hold promise of being another safe, cost-effective tool for controlling river otters in ponds. Any traps or materials needed are sold at cost to the landowner.

We Missourians are blessed to live in a state where wildlife is abundant and diverse. For the most part, we can live in harmony, but when critters cause problems, Conservation Department services are just a phone call away. ▲



Turkey Vulture

Missouri's VULTURES

The sight of 23 turkey vultures perched on our barn roof with their 6-foot wings extended sure grabbed our attention the first time we saw them. No matter how much you know about vultures or how much you appreciate their role in nature, there will be a brief

moment of alarm when you wonder if they know something you don't. Now, observing vultures throughout the day has become a welcome diversion to our daily chores.

With their small, bald, wrinkled, red heads, hunched shoulders, and large, dark bodies, vultures look like something from a grade "B" horror movie, especially when seen through the morning fog. In film and art, they are a universal symbol of dread and desolation.

Like Grim Reapers, the vultures sit in absolute silence. Lacking a syrinx, or voice box, they cannot sing. If close enough, you might overhear an occasional hiss or groan as they communicate with one another, but they will usually not allow you that close.

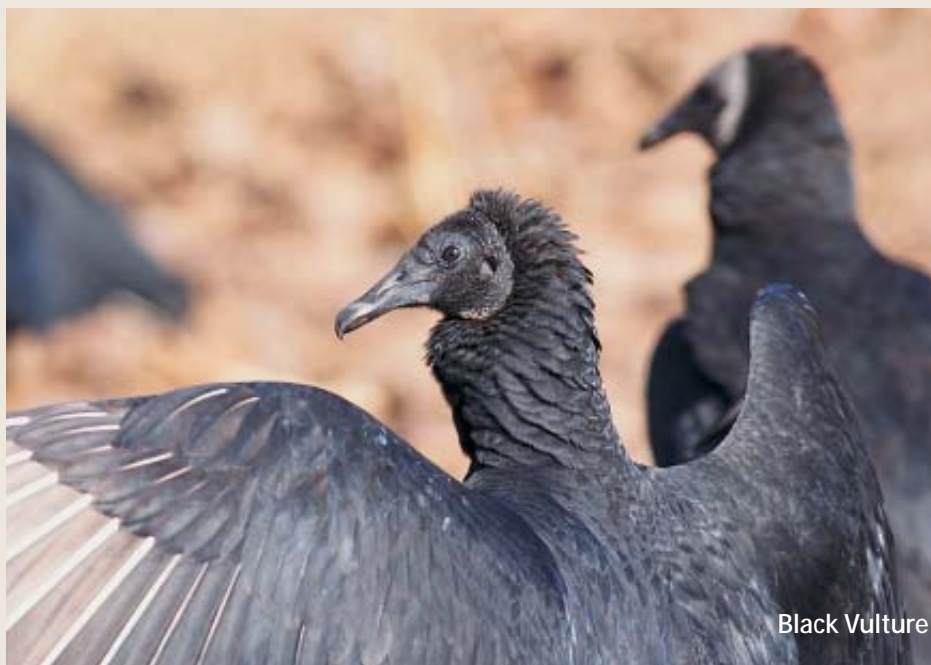
Often called "buzzards," New World vultures are actually related to storks and flamingoes. Of the seven species of New World vultures, three are native to the United States—the turkey vulture (*Cathartes aura*), the black vulture (*Coragyps atratus*) and the endangered California condor (*Gymnogyps californianus*). Only the first two are found in Missouri.

The turkey vulture is a common summer resident across Missouri. Black vultures are mostly in the southernmost counties, but they have been known to migrate as far north as mid-Missouri in the summer. Both species are limited to the state's southernmost counties during the winter.

These creatures of bad habits serve as nature's cleanup crew.

By Cynthia Andre

Photos by Jim Rathert



Black Vulture

Efficiency is the hallmark of vulture design. A wide wingspan allows the bird to "float" on air currents. Its keen senses of sight and smell help it find carrion. A vulture's featherless head is able to probe deeply into carcasses, and the bird's potent digestive system kills viruses and bacteria contained in rotting meat.

These two species are distinguished by the color of their heads and by the length of their tails, among other features. The adult turkey vulture's head is red, and the black vulture's head is black. The turkey vulture's tail extends well beyond the feet in flight, while the black



Young vultures stay in the nest for about 11 weeks.

vulture's feet extend nearly to the end of the tail. Both species are federally and state protected.

Our vultures' day begins between 7 and 8 a.m.

Alighting on various fence posts and the roof of the barn, they squat on their weak legs, maintaining space between one

another by subtle and not-so-subtle warnings.

Their featherless heads and legs, which keep them cool on hot summer days, leave them cold and damp from night air. Once on the barn roof, the vultures move about slowly, if at all. Finally one and then another spread their dusky black wings, turn their backs or faces to the sun and get down to some serious sunbathing.

An hour or so later—around 9 a.m. in mid-summer—their body temperatures rise back to normal, and they begin to leave their morning perch. Alternately flapping and soaring higher and higher in ever widening circles, they rise on thermal air currents from the warming earth.

They soar like gliders, gracefully dipping this way and

that with their wings outstretched in a horizontal V, and the feathers at their wing tips spread like the fingers of ballerinas. Using updrafts from the surrounding hills, they rise ever higher and ride the wind out of the valley. One soars away southward, quickly becoming a small black dot high in the distant sky. Four drift slowly eastward. Nine have disappeared above the white oaks above the house to the north. Others have left unnoticed. Their day has begun in earnest.

Although up to 50 percent of a turkey vulture's diet may consist of grass, leaves, seeds and other vegetable matter, turkey vultures prefer dead animals. While all vultures have keen eyesight, turkey vultures also have a keen sense of smell, helping them find the carcasses of animals concealed under tall grasses and forest canopies.

A turkey vulture's weak talons and beak won't allow it to dine on just any dead animal. The carcass needs to be aged a bit. Being the connoisseurs of carrion that they are, they can actually determine the age of a carcass by its smell while still in the air. Movie scenes of vultures in the old west circling prospective prey that is still moving—however slowly—is the stuff of fiction. Those vultures would have a long wait.

Being the connoisseurs of carrion that they are, they can actually determine the age of a carcass by its smell while still in the air.



The sociable turkey vulture seems to prefer company at its evening roost. Birds usually revisit the same roost sites. They leave before dark to spend the night in the thick canopy of trees.

ENJOY VULTURE VENTURE

Each winter one of the largest, if not the largest, winter roosting site in Missouri is open for viewing by the public during Vulture Venture at the Department of Conservation's Shepherd of the Hills Conservation Center at Table Rock Lake. You can sometimes see up to 800 black and turkey vultures soaring above the nearby bluffs over the lake or sitting in their roost, which



covers nearly an acre. Naturalists are on hand to answer questions. A program on vultures is offered every hour, and you can meet a live vulture "nose to beak."

Vulture Venture 2004 will take place Feb. 28, from noon to 6 p.m. The Shepherd of the Hills Conservation Center is located about 6 miles south of Branson on Highway 165, at Table Rock Dam. For information, call 417/334-4865.

By comparison, black vultures have a weaker sense of smell, but they make up for it with an attitude. When food is scarce, they are content to let turkey vultures do the looking. When the turkey vultures find a suitable carcass, the black vultures move in and, like schoolyard bullies, go to the head of the line.

Whether first or last in line, both vultures are particularly well designed for eating carrion that has been properly aged. Their featherless heads, for example, are particularly well suited for delving into ripened carcasses.

Their digestive systems are also specially adapted for consuming rotting meat. Vultures sterilize their food in the process of digesting it, possibly killing viruses as well as bacteria. This protects the vultures and reduces the spread of disease from the carcasses they consume. After digesting a meal, a vulture may excrete the waste onto its legs, cooling and decontaminating them and its talons at the same time. It's an odd sort of tidiness.

Vultures also occasionally vigorously vomit out their stomach contents. This strategy, which does not endear them to human caretakers, may aid vultures by lightening their weight for a quick getaway.

Vultures have also been characterized as "gentle, inquisitive and very intelligent," by at least one caretaker of captive vultures. They spend only a portion of their time looking for, eating, digesting and regurgitating food. Caretakers report that vultures often prefer the company of certain staff, sometimes following them from room to room. They also report that the vultures like to untie people's shoes and enjoy some toys, particularly hollow objects into which they can stick their heads.

In midsummer, the vultures that live in my valley start returning by 6 to 7 p.m. They arrive singly or in small groups and light on one of the prominent dead trees across the creek, and in the canopies of the trees to either side. They spend the next couple of hours preen-

ing. Sometimes, for no apparent reason, they take flight again to sail around the valley a few times before returning to the roost.

The number of vultures at the roost varies each evening, suggesting that some may remain where they have been hunting during the day. By midsummer, there seems to be fewer of them. Perhaps some pairs have dispersed to raise their young.

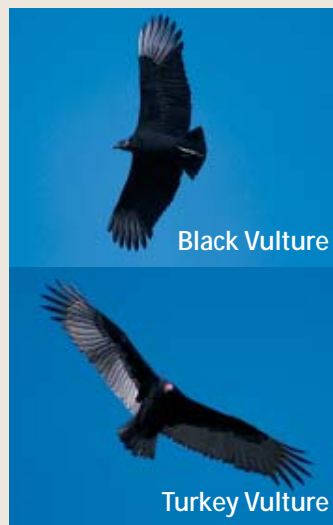
Vultures do not build nests in trees. A female lays one to three eggs in a log, stump, cave entrance or, occasionally, in an old barn or aban-

doned house. The pair take turns sitting on the eggs and, once the chicks have hatched, share the task of feeding the young. By late August, having completed their nesting activity, the pair rejoins the others at a roost.

One study of black vultures suggests that mates and closely related individuals use the same roost site on the same night. The researchers speculated that there might be significant advantages to membership in such associations, particularly in contests over food. It's also possible the communal roosts benefit vultures by allowing them to follow others to known food sources.

Our turkey vultures usually leave their roost around 8 p.m. They drop out of the trees one by one, coast over the creek or occasionally over the field to a group of tall sycamores about 1,000 feet upstream. They disappear into the thick canopy of the trees and settle in for the evening.

Observing this local roost of vultures and their activities in the valley have become a part of the rich tapestry that is our life on the creek. Their departure from the valley early in the day signals that the morning is getting away from us. Their movement to their roost just before twilight tells us it is time to put away our gardening tools and head for the house. We miss their lazy circling in our skies during the winter, and we eagerly look for their arrival every spring. ▲



Turkey vultures often soar for hours in Missouri skies. The scientific name of these birds, *Cathartes aura*, means "cleansing breeze."





Diamonds *in the* Rough

By David Hoover

Keeping your CRP grasslands attractive to wildlife.

Without question, the Conservation Reserve Program has been instrumental in helping landowners improve wildlife habitat. However, enrolling your land in CRP is only the beginning. Improving wildlife populations ultimately depends on how well you manage your CRP land.

The Conservation Reserve Program (CRP) was established in 1985 with the passage of the Food Security Act, or Farm Bill. Its primary goals were to reduce soil erosion, improve water quality and reduce crop production. Landowners enrolling in CRP receive an annual rental payment for establishing semi-permanent cover, such as grasses, legumes, trees and shrubs, on erosion prone cropland and leaving it for 10 to 15 years.

In 1996, wildlife habitat was added to the list of primary purposes of the program. CRP lands have benefited many species of wildlife. Notable beneficiaries have been waterfowl and pheasants in the Great Plains and Iowa, as well as grasshopper sparrows, field sparrows, eastern meadowlarks and other grassland songbirds, in many Midwestern states.

Simply having land enrolled in CRP on or around your property, however, does not automatically mean improved wildlife habitat. The value of CRP lands to wildlife depends on the composition and structure of the vegetation and the management practices implemented in each field.



Jim Rathert

Without management, CRP grasslands inevitably become less attractive to wildlife. After only two to three years, the new grasslands are unable to provide suitable roosting and brood-rearing cover for quail.

CRP in Missouri

Nearly 95 percent of Missouri's 1.5 million acres of CRP lands are planted to cool-season grass/legume or native warm-season grass mixtures. The remaining acres are enrolled in CRP buffer practices, such as riparian forest buffers, filter strips, grassed waterways, contour grass strips and shallow water wetlands.

Many wildlife species, such as rabbits and quail, have benefited little from CRP. A four-year study of CRP grasslands in northeast Missouri conducted in the early 1990s concluded that CRP fields provided suitable roosting and brood-rearing cover for bobwhite quail between one and three years after planting. CRP plantings older than three years, however, provided some nesting cover, but offered little in the way of roosting and brood-rearing cover.

A follow-up study currently being conducted indicates that habitat conditions for bobwhite quail on CRP grasslands have not changed significantly. CRP fields that receive little management, or are only mowed periodically, quickly become dominated by perennial grasses that choke out beneficial forbs and legumes. This leads to cover so thick and devoid of food that it is unsuitable for wildlife.

Diverse plant communities, on the other hand, provide a variety of forbs and legumes that attract insects and

produce abundant seed. This is important because young quail, pheasants and turkeys feed almost exclusively on insects in summer. They shift to seeds during fall and winter.

CRP Solutions

If you're establishing a new CRP planting, select a wildlife-friendly seeding mixture. A mixture of native warm-season grasses such as little bluestem, big bluestem, sideoats grama and Indian grass will likely be the best choice. However, cool-season grasses like orchard grass and timothy are also wildlife friendly. Any new planting, regardless of whether you select native or cool-season grasses, should contain a mix of forbs and legumes. Avoid planting tall fescue, reed canary grass and caucasian bluestem.

Periodic management of CRP grasslands can provide quality habitat for a variety of wildlife species, many of which are declining both locally and nationally. Practices that can be implemented on CRP grasslands to benefit wildlife include prescribed burning, strip disking, planting shrubs and establishing food plots. Used in combination, these practices can change a CRP field choked with thick grass into a magnet for a variety of wildlife.

Prescribed Burning

Prescribed burning is one of the most efficient and beneficial wildlife management practices. Careful planning is required to conduct safe and effective prescribed burns. Periodic burning can be used to reduce perennial grass dominance, increase plant diversity and remove excess plant litter, making it easier for wildlife to move through the stand. In most instances it is important to burn only one-third to one-half of the CRP acres on a farm. The unburned areas serve as nesting



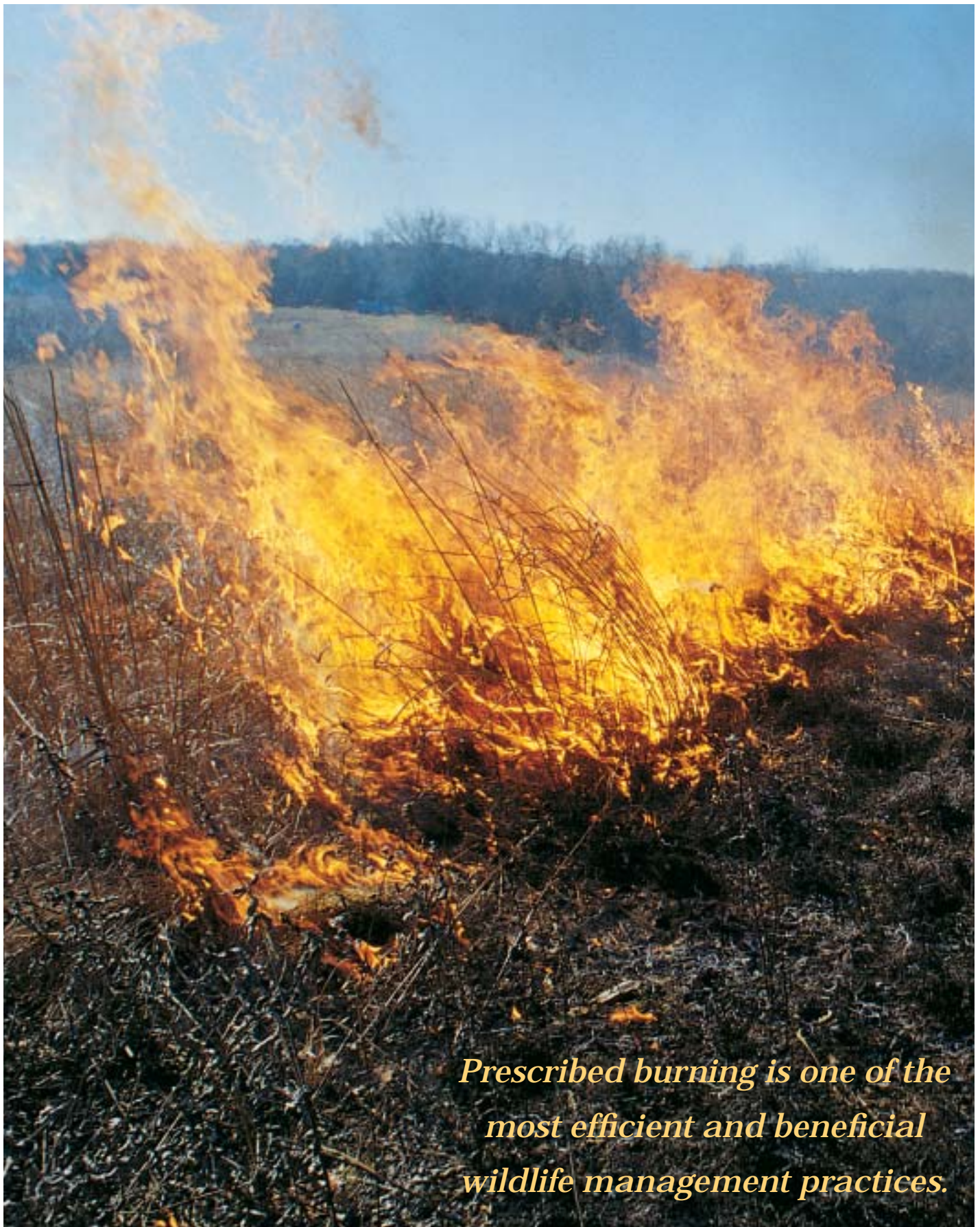
Cliff White

Prescribed burning removes plant litter and encourages new growth.



Jim Rathert

Rabbits multiply quickly in response to CRP grassland management.



*Prescribed burning is one of the
most efficient and beneficial
wildlife management practices.*

Jim Rathert



Jim Rathert

Eastern meadowlarks are among the many songbird species that benefit from reinvigorated CRP grasslands.

cover, while the burned areas provide brood-rearing and roosting cover during the summer and fall.

The timing of a prescribed burn is important because plant communities respond differently to burns at different times of the year. For instance, burning in mid to late spring will set back cool-season grasses and encourage

native warm-season grasses. Early spring burns have the opposite effect. Fall and winter burning, on the other hand, generally favors forbs and legumes. It is generally good to burn every field on a two- to four-year rotation, mixing up the times of year you burn.

Strip Disking

Dense sod and vegetation are detrimental to wildlife feeding and movement. You can break up those elements by disking. This technique involves disking strips 25 to 75 feet wide through a field during fall or spring. Disked strips should be as long as possible. They should follow the contour of the field and be separated by undisturbed vegetation twice as wide as the disked strips to prevent erosion. The disked areas will provide brood-rearing and roosting cover for species, such as bobwhite quail. The undisked areas will provide nesting cover.

The best time to disk is between October 1 and March 30. In most instances it will be necessary to burn or mow the areas before disking so the disk blades will



Cliff White

Strip disking and prescribed fire open up a field, making it possible for small animals to move at ground level.

cut effectively. Strip disking can be used in conjunction with, or as an alternative to, prescribed burning to break up and diversify dense stands of CRP grasses.

Rotate the disked strips around the field from year to year. This will create a situation in which multiple vegetation types are present within each field, maximizing wildlife benefits. For quail, disked strips should be within 50 feet of dense shrub cover.

Shrub Plantings

In large CRP fields, or in fields with little shrubby vegetation around or within them, small shrub plantings can benefit wildlife. They're essential if you're managing for bobwhite quail. Biologists often refer to areas of dense shrubby cover as "covey headquarters" because they are the foundation of a covey's home range. These areas serve as escape cover from predators and protection from harsh winter weather and mid-day summer heat.

Covey headquarters should be 3-10 feet tall when mature, with little vegetation at ground level to restrict movement. The shrubby cover should be thick enough to make it difficult for a person to walk through it. Plum, blackberry, sumac, rough-leaved dogwood and coral berry are good "cover headquarters" plants.

For CRP fields bordering woodlands or having woody draws running through them, "edge feathering" can be used to create covey headquarters in a shorter time than with shrub plantings. Edge feathering provides a gradual transition zone from one habitat type to another using a mixture of plants from each of the adjoining habitats.

Food Plots

Food plots can serve many purposes, such as providing brood-rearing cover and emergency winter food. In some instances, they can substitute for woody cover.

Food plots ranging from one-quarter acre to one-half acre should be established every 40 acres and located within 50 feet of woody cover. Long, linear food plots planted with annual grains are better for small-game wildlife. Larger, blocked food plots consisting of green-browse forages, like clover, are better for deer.

Combine Practices

Individually, each of the above mentioned practices can enhance CRP grasslands for wildlife. Combined, they can be used to create a wildlife oasis.

For example, strip disking after a prescribed burn will create and maintain a diverse plant community and provide feeding and nesting cover for wildlife. Establishing food plots next to shrubby cover will create quality covey headquarters for quail.

To learn more about managing CRP for wildlife, contact your county USDA office or visit your nearest Conservation Department office. A private land conservationist, wildlife management biologist or NRCS technician can help you plan management options best suited for your CRP property. ▲



Nearby brush cover serves as covey headquarters for quail.



Food plots make your CRP lands even more attractive to wildlife.



Jim Rathert

HARD WATER FISHIN' *Missouri Style*

**Ice fishing is one cool,
cold-weather sport.**

By Doug Rainey



Jim Rathert

In early December, the little town of Memphis, Missouri, is abuzz with coffee shop discussions about frozen ponds and fresh fish fillets.

After a week of below freezing temperatures, and having observed Corky at the coffee shop already telling big fish stories, I finally muster the courage to test the “hard-water fishing” opportunities available in Scotland County farm ponds. The ice is a good 4 inches thick and clear as glass. That means safe ice and, usually, hungry fish that need catchin’.

I’m not sure what part of ice fishing appeals to me the most. For starters, it’s a great way to relax. Or maybe it’s drilling all those holes in the ice with an auger to find fish, or trying to avoid being blown across the lake by bone-chilling winds while trying to erect a shelter. Perhaps it’s the chance to pull a 6-pound channel cat through a 6-inch hole on 2-pound test line.

Yeah, catching the catfish would have to be my favorite part!

Ice fishing is a very simple sport, and you can generally get started with only a minimal investment. Before you even think about venturing onto the ice, make sure you wear warm clothes and dress in layers. Insulated boots are essential to keep your feet warm while resting for many hours on ice. I even use electric socks when it’s especially cold.

Next you need an ice auger to drill holes. Augers 6-8 inches in diameter are commonly used in north Missouri, depending on the size fish you anticipate catching. Bigger is better, but it takes more work to drill bigger holes. Just make sure you drill a hole wider than the fish you plan to catch. You’ll also need a plastic scoop to clean the ice chips out of your hole after drilling, as well as a 5-gallon bucket to sit on and to carry your gear.

An ultra-light ice-rod with a reel loaded with 4-pound test line is a good all-round ice-fishing rig. Some nylon or Manila rope is always good to have in case of an emergency. You’ll need an assortment of ice-fishing jigs and some live bait, such as waxworms, maggots or minnows, to tip your jigs. Bring along

some high-energy food. An ice-fishing shelter might make the day much more comfortable.

Early ice is the best time for fishing. Fish are more aggressive early, but as the season progresses, fish activity usually slows down, as does the catching. You can expect to catch bluegill, largemouth bass, crappie, walleye and channel catfish, depending on what has been stocked in the ponds you are fishing. You can fish the large lakes, but they often take much longer to freeze than ponds.

Finding fish can be the biggest challenge of this sport. They can be almost anywhere, and at any depth. A portable depth finder will make your search for fish easier. If you don't have one, start searching in the deepest area of the pond first. Usually about a foot off the bottom is best. Work your way slowly from the bottom of the water column to the top, very slowly searching for some activity. If you don't have any action in about 15 minutes, move on and try another location. Often, moving only a few feet in any direction can make a big difference in whether you catch fish or not.

Remember, fish don't move around much this time of year. You must find them, instead of them finding you. For this, anticipate drilling 20 to 30 holes a day.

Don't be discouraged if you don't catch fish right away. During the winter, fish generally feed for shorter periods of time, usually early

or late in the day. Many anglers consider the last hour of the day to be the most productive.

Ice-fishing may not be for everybody, but for the really true northern "hard

water angler," it is a wintertime activity that can't be beat. In Memphis, we really look forward to it each year. When the ice is safe, try it. I'll bet you'll think ice fishing is cool, too. ▲



Doug Rainey



Jim Rathert

WHEN IS ICE SAFE?

- * Three inches of solid ice is generally considered safe for walking, skating or fishing. Make sure the ice is 4-inches thick if you're with a group.
- * Drill test holes as you move out from shore to make sure the ice is thick enough. Stay off ice that sags when you walk on it.
- * Stay away from springs and areas with current. Thick snow cover will slow down ice formation and can weaken already-formed ice by forcing it underwater.
- * Ice may also be weaker near trees, rocks or other items that absorb heat. Always avoid slushy, honeycombed or dark, late-season ice.

Ice fishing requires only a minimum investment in equipment. No boats, motors or batteries are required. Just cut a few holes and have some fun.

SURVIVING AN ICY DUNKING

- * Wear a life preserver or bring along a PFD cushion.
- * Keep a couple of large nails in the pocket of your coat. They can help you get a "bite" on the slippery ice in case you fall in. Many ice anglers make ice awls consisting of spike points protruding from easy-to-grab wooden handles.
- * If you fall in, try to pull yourself out in the direction you came from. You know that ice supported you. It helps to kick your feet while trying to pull yourself up onto the unbroken ice or when someone is pulling you free.
- * When you reach unbroken ice, don't try to get up. Roll or pull yourself well away from the hole you made falling through.
- * Don't approach too closely to someone who has fallen through the ice. Carefully extend a rope, branch or ladder to the victim, and mostly let the victim pull and kick himself onto the ice.

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River project benefits all

Private landowners and officials from state and federal agencies gathered on the banks of the Missouri River Sept. 18 to celebrate a partnership that benefits farmers, hunters, anglers and nature watchers, not to mention thousands of downstream residents.

The occasion was the dedication of a fish and wildlife mitigation project at Overton Bottoms, which straddles I-70 at Rocheport. The 5,000-acre project occupies former farmland that was damaged by the Great Flood of 1993. The U.S. Army Corps of Engineers bought the land from willing sellers to restore wildlife habitat lost to the Missouri River Bank Stabilization and Navigation Project.

From the 1920s through the 1970s, the Corps of Engineers reduced the width of the river, eliminating hundreds of thousands of acres of bottomland hardwood forest, islands, sand bars and shallow-water areas. These areas once sustained abundant fish and wildlife, as well as the recreational hunting and fishing and commercial fishing that these resources provided.

Before channelization, the flood plain also allowed the river to spread out harmlessly during floods. This reduced flood crests, minimizing property damage.

Overton Bottoms is just one area where the Corps of Engineers is working to offset the negative ecological and economic effects of river channelization. John Hoskins, director of the Missouri Department of Conservation, said the mitigation project was possible only through the cooperation of private landowners, the Corps of Engineers and the U.S. Fish and Wildlife Service.

Hoskins noted that moving 4.5 miles of river levee back from the river as part of the project "acts as a pressure-relief valve that reduces flood heights on downstream farms and communities." Part of Overton Bottoms will be restored to seasonal wetlands and bottomland hardwood forest.

"Equally important," said Hoskins, "are the restoration of side channels and the notching of dikes to restore shallow water habitat necessary for the diversity and health of native fish and other aquatic species. The Missouri River Mitigation Project is a win-win for Missourians."

Corps of Engineers Kansas City District Engineer Col. Donald R. Curtis, Jr., expressed pride in his agency's role in enhancing fish and wildlife habitat. U.S. Fish and Wildlife Service Regional Director Robyn Thorson said the project is an important part of efforts to restore habitat on "a highly engineered river."

Also present for the dedication was John Clay, a sixth-generation farmer whose family settled in Missouri in 1816. Now president of the Overton-Wooldridge Levee District, he sold land to the Corps of Engineers for the project. He said it is a good example of balancing the needs of private landowners with public policy goals.

"The levee district and the Corps of Engineers have made great strides in making private and public interests compatible," said Clay. He said he looks forward to working with the Corps of Engineers, the Fish and Wildlife Service and the Conservation Department in the future, and thanked them for "being good neighbors."

Free gift card with permits

Hunting and fishing permits for 2004 go on sale Dec. 1, just in time for holiday gift giving. Not only can you purchase permits for your favorite hunter or angler, but you also can pick up a free gift card. The card even tells the recipient when various regulation booklets will be available throughout the year.

When purchasing permits for others, be sure to bring along one of the following to identify the permittee in the computerized permit system:

- * Conservation ID number (from the permittee's Conservation Heritage Card or an old permit)
- * Social Security number
- * Driver's license number



News for quail buffs

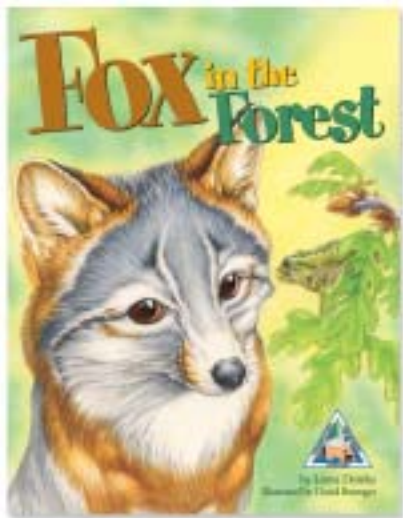
Are you interested in having more quail on your property? A free quarterly newsletter, "The Covey Headquarters," can help. Compiled by an interagency committee, this newsletter brings the latest in quail research and habitat management success stories to you. To subscribe, contact: The Covey Headquarters Newsletter, 3915 Oakland Ave, St. Joseph, MO 64506 or email Bill.White@mdc.mo.gov



➤ NEW FUN FOR KIDS AT THE NATURE SHOP ◀

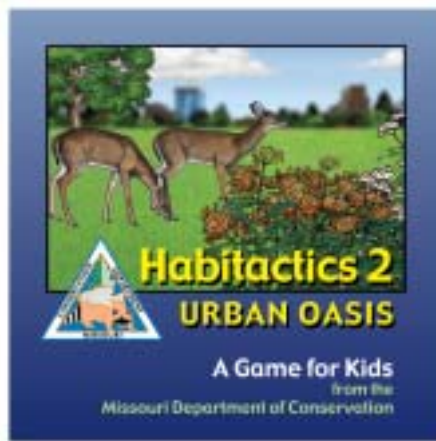
"Fox in the Forest"

Introduce your children to the amazing array of life in Missouri forests by reading aloud this colorful new Missouri Department of Conservation book written by Lorna Domke and illustrated by wildlife artist David Besenger. It's the story of a gray fox kit that sets out one spring morning and meets all sorts of flying, crawling and running creatures, including a luna moth, tiger salamander, box turtle, white-tailed deer and more. The book is for or children ages 2-6. The books cost \$8 each, plus tax and shipping and handling. Order number 01-0155.



"Habitactics 2, Urban Oasis"

This sequel to the "Habitactics" computer game challenges players of all ages to create a healthy place for urban wildlife to live. Plant the trees, flowers and shrubs and see what appears! Turn an empty lot into a home for all sorts of animals, and a place for people to enjoy the natural world, too. You can also collect your own virtual photos of what you've seen along the way. Extra games give you a chance to quickly check what you know about Missouri's native plants and wildlife. The CD-ROM is for Windows 95/98/2000/ME/XP and Macintosh 9/X. Order number 03-0300. The cost is \$10 each, plus tax, shipping and handling.



To order, call toll-free 877/521-8632 or visit www.mdcnatureshop.com.

Missouri youths score well in outdoor competitions

Missouri youths have been impressive recently in outdoor skills competitions, adding luster to the Show-Me State's reputation as a recreational paradise.

Four teams represented Missouri at the 4-H Shooting Sports National Invitational Match in Raton, N.M., in July. They finished in the top five in shotgun, small-bore rifle, muzzleloading and archery.

Missouri's muzzleloader team finished first. The Missouri smallbore rifle team finished third. The archery team placed fourth. The shotgun team placed fifth in the most competitive event of the match.

Also at Raton, N.M. last summer, Missouri's Youth Hunter Education Challenge team earned three first-place trophies, four seconds and five thirds.

The Heartland Sharpshooters of Brookfield placed second in archery and third in muzzleloader. The Back 40 Sharpshooters of Fair Grove took a team second place in rifle. Mike Ramsey of Sparta High School received the "Slim Borsay Outstanding Coach of the Year Award," and Martha Cook of Fair Grove became the first girl to shoot a perfect score in the .22-caliber rifle marksman-ship competition.

A 4-H group from northwest Missouri placed ninth in the Wildlife Habitat Evaluation National Contest at Las Cruces, N.M. It was the first time a Missouri team has placed in the top 10 at the competition.

The youths, ages 14-17, ranked various sites on their ability to support different wildlife. They also created habitat management plans for wild and urban landscapes.

The Faith Assembly Christian School of West Plains fielded its first team in the Grand American World Trapshooting Championship in Vandalia, Ohio, last sum-

mer. They competed against nearly 1,000 other youths in grades 12 and under from 41 states. The team didn't take home any of the \$69,000 in scholarship award money, but their experience was valuable.

"We were there to have a good time this year," said coach Mark Odom. "But we're going to be a real threat in six years."



Outdoor Calendar

HUNTING

	OPEN	CLOSE
Coyotes	5/12/03	3/31/04
Deer, Firearms	12/13/03	12/21/03
December season open only in units 1-27, 33-38, 58 & 59—Antlerless Only		
Deer, Muzzleloader	11/28/03	12/7/03
Deer/Turkey, Archery	11/26/03	1/15/04
Squirrels	5/24/03	1/15/04
Pheasants		
North Zone	11/1/03	1/15/04
Southeast Zone	12/1/03	12/12/03
Quail	11/1/03	1/15/04
Rabbits	10/1/03	2/15/04
Ruffed Grouse	10/15/03	1/15/04
Furbearers	11/20/03	1/20/04
Groundhogs	5/12/03	12/15/03
Common Snipe	9/1/03	12/16/03
Crows	11/1/03	3/3/04
Turkey (spring)	4/19/04	to be announced
Waterfowl	varies by zone	

FISHING

Black Bass (most southern streams)	5/24/03	2/29/04
Trout Parks	3/1/04	10/31/04
catch and release (Fri.—Sun.)	11/14/03	2/8/04
Bullfrog & Green Frog	Sunset 6/30/04	Midnight 10/31/04
Nongame Fish Stream Gigging	9/15/03	1/31/04

TRAPPING

Beaver	11/20/03	3/31/04
Coyote	11/20/03	2/20/04
Otters & Muskrats	11/20/03	Varies

see regulations for other zones, limits and dates

Other Furbearers	11/20/03	1/20/04
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For complete information about seasons, limits, methods and restrictions, consult the *Wildlife Code* and the current summaries of *Missouri Hunting and Trapping Regulations* and *Missouri Fishing Regulations*, the *Fall Deer and Turkey Hunting Information*, *Waterfowl Hunting Digest* and the *Migratory Bird Digest*. To find this information on our Web site go to <http://www.conservations.state.mo.us/regs/>.

The Conservation Department's computerized point-of-sale system allows you to purchase or replace your permits through local vendors or by phone. The toll-free number is 800/392-4115. Allow 10 days for delivery of telephone purchases. To purchase permits online go to <http://www.wildlifelicense.com/mo/>.



Buy Natural Events Calendars now

The 2004 Natural Events Calendars are now available. These gorgeous calendars, produced by the Missouri Department of Conservation, are always popular, so don't wait.

Twenty-four of the 32 pages contain stunning color photos of Missouri wildlife, plants and landscapes. Date squares keep you posted on what's blooming or nesting and myriad other natural events. The remaining eight pages contain bonus photos, a list of citizen conservation groups and information about other nature-related topics and publications. We've also included a list of monthly tips for native plant gardeners.

Supplies of the award-winning calendar are limited, and they are in high demand, so buy early. The calendar is available for \$5, plus tax, at Conservation Department Nature Centers and regional offices. To purchase by mail, contact the Nature Shop, P.O. Box 180, Jefferson City, MO 65102 or call toll free at 877-521-8632. Shipping and handling charges will be added to mail orders. Calendars also can be ordered online at www.mdcnatureshop.com/.





Program Schedule

Television the way Nature intended!

Broadcast Stations

Cape Girardeau UPN "The Beat" WQTV / Saturdays 8:30 a.m.

Columbia KOMU (Ch 8 NBC) / Sundays 11:00 a.m.

Hannibal KHQA (Ch 7 CBS) / Weekends, check local listing for times

Joplin KOZJ (Ch 26 PBS) / Saturdays 2:00 p.m.

Kansas City KCPT (Ch 19 PBS) / Sundays 7:00 a.m.

Kirksville KTVO (Ch 3 ABC) / Saturdays 5:00 a.m.

St. Joseph KQTV (Ch 2 ABC) / Weekends, check local listings for times

St. Louis KSDK (Ch 5 NBC) / Sundays, 4:30 a.m.

Springfield KOZK (Ch 21 PBS) / Saturdays 2:00 p.m.

Warrensburg KMOS (Ch 6 PBS) / Sundays 6:30 p.m.

Cable Stations

Branson Vacation Channel / Fri., Sat. 8:00 p.m.

Brentwood Brentwood City TV / Daily, check local listing for times

Cape Girardeau Charter Cable Ed. Ch. 23 / Thursdays 6:00 p.m.

Chillicothe Time Warner Cable Channel 6 / Wednesdays 7:00 p.m.

Hillsboro JCTV / Mondays 12 p.m. & 6 p.m.

Independence City 7 / Thurs. 2 p.m., Sat. 10 a.m. & Sundays 8 p.m.

Joplin KGCS / Sundays 6 p.m.

Mexico Mex-TV / Fridays 6:30 p.m. & Saturdays 6:30 p.m.

Noel TTV / Fridays 4:30 p.m.

O'Fallon City of O'Fallon Cable / Wednesdays 6:30 p.m.

Parkville City of Parkville / First and third Tuesdays of the month 6:30 p.m.

Perryville PVTV / Mondays 6 p.m.

Raymore Govt. Access-Channel 7 / Various, check local listings for times

Raytown City of Raytown Cable / Wed. 10:00 a.m. & Saturdays 8:00 p.m.

St. Charles City of St. Charles-Ch 20 / Tues. 5:00 p.m. and Wed. 10:00 a.m.

St. Louis Charter Communications / Saturdays 10:30 a.m.

St. Louis City TV 10 / Mondays 11:30 a.m., Wednesdays 3:30 p.m.

St. Louis Cooperating School Districts / Wednesdays 9 a.m.

St. Louis DHTV-21 / Mondays 10:30 a.m.

St. Louis KPTN-LP/TV58 / Thursdays 10:00 a.m.

St. Peters City of St. Peters Cable / Various, check local listings for times

Ste. Genevieve Public TV / Fridays 1 p.m., 6 p.m. & 12 midnight

Springfield KBLE36 / Nine times a week, check local listing for times

Sullivan Fidelity Cable-Channel 6 / Wed. 11:00 a.m. and Fri. 7:00 p.m.

Union TRC-TV7 / Tuesdays 3:00 p.m.

West Plains OCTV / Mondays 6:30 p.m.

Meet our Contributors



Freelance writer **Cynthia Andre** is a recent graduate of Southwest Missouri State University's graduate program in biology. She observes flora and fauna, including a local roost of turkey vultures, at her home on Bull Creek in the Ozark Mountains of southwest Missouri.

Wildlife Damage Biologist **Jim Braithwait** has worked for the Conservation Department for nearly 20 years. Jim enjoys hunting, trapping, fishing and passing on the heritage of conservation to his son, Adam, and two daughters, Whitney and Couri.



Private Land Conservationist **David Hoover** has worked for the Conservation Department since 1998. He lives in Queen City and enjoys laboring on his small farm and hunting and fishing with his wife and two daughters. His professional interests include helping landowners improve habitat for upland wildlife and promoting the use of native forage in grazing systems.

Tom Hutton lives in Jefferson City. He spent 22 years of his Conservation Department career helping manage prairies, glades, savannas, forests and wetlands, and six years helping the public with wildlife damage problems. He enjoys hunting, bird watching, camping, canoeing, photography, farming and working with bird dogs.



William Poe is a St. Louis-based writer and advertising executive whose outdoor hobbies include hiking and biking. He has recently taken up fishing (with what he describes as less than stellar results) and backyard birdwatching.

Private Lands Conservationist **Doug Rainey** works out of the Natural Resources Conservation Services office in Edina. During his 30-year career with the Conservation Department, he has worked in the Fisheries, Wildlife and Private Land Services divisions. He enjoys hunting and fishing and describes himself as having been passionate about ice fishing for more than 10 years.





Winter Arrangement

A blanket of snow drapes trees and boulders at Castor River Shut-Ins, east of Fredericktown in Madison County. — *Jim Rathert*